Abstract

[0031] The present invention discloses an apparatus used to generate a branch metric for a Viterbi decoder. The apparatus includes a linear feedback shift register and a convolutional encoder. The linear feedback shift register performs a calculation based on a specific primitive characteristic polynomial and creates a binary number sequence after the calculation. The convolutional encoder generates the branch metric by encoding the binary number sequence. Besides, the apparatus is further capable of selecting one of the several built-in primitive characteristic polynomials by inputting a selection signal in order to conform to the request of the different systems.